

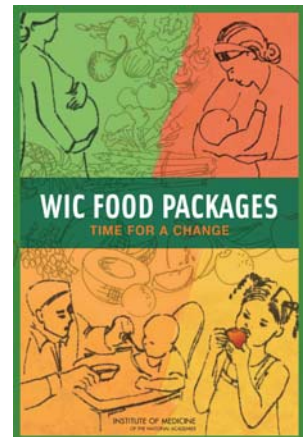
# WIC Food Packages: Time for a Change

For more than 30 years, the WIC program (the Special Supplemental Nutrition Program for Women, Infants, and Children of the U.S. Department of Agriculture) has provided foods that supplement the diets of millions of low-income women, infants, and children. The WIC program has been very successful, particularly in improving nutrient intakes among participants. In early 2004, the Institute of Medicine formed a committee to review the WIC program's current supplemental food packages and determine if a redesign could help participating families eat a healthier diet.

The committee considered dietary and health data on low-income women, infants, and children; dietary guidance from the Dietary Reference Intakes and the *Dietary Guidelines for Americans*; current dietary guidance for feeding infants and young children; and public comments from stakeholders such as WIC program staff, advocacy groups, and WIC participants. The following six criteria were used to revise the food packages:

1. The package reduces the prevalence of inadequate and excessive nutrient intakes in participants.
2. The package contributes to an overall dietary pattern that is consistent with the *Dietary Guidelines for Americans* for individuals 2 years of age and older.
3. The package contributes to an overall diet that is consistent with established dietary recommendations for infants and children less than 2 years of age, including encouragement of and support for breastfeeding.
4. Foods in the package are available in forms suitable for low-income persons who may have limited transportation, storage, and cooking facilities.
5. Foods in the package are readily acceptable, widely available, and commonly consumed; take into account cultural food preferences; and provide incentives for families to participate in the WIC program.
6. Foods proposed consider the impacts that changes in the package will have on vendors and WIC agencies.

The committee's recommendations were presented in the report, *WIC Food Packages: Time for a Change*. The report recommends revisions to the food packages that match current dietary guidance for infants and young children, encourage consumption of fruits and vegetables, emphasize whole grains, lower saturated fat, and appeal to diverse populations.



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**TABLE 1.** Maximum Monthly Allowances for Young Infants

	<b>Current Food Package I</b>	<b>Revised Food Package I</b>
<b>Partially Breast-Fed Infants</b>		
Infant Formula	<b>Birth through 3 months of age:</b> About 806 fl oz of iron-fortified formula [about 26 fl oz of formula per day]	<b>1 month through 3 months of age:</b> About 384 fl oz of iron-fortified formula as powdered formula [about 12 fl oz of formula per day]  <b>4 through 5 months of age:</b> About 442 fl oz of iron-fortified formula [about 14 fl oz of formula per day]
<b>Fully Formula-Fed Infants</b>		
Infant Formula	<b>Birth through 3 months of age:</b> About 806 fl oz of iron-fortified formula [about 26 fl oz of formula per day]	<b>Birth through 3 months of age:</b> About 806 fl oz of iron-fortified formula [about 26 fl oz of formula per day]  <b>4 through 5 months of age:</b> About 884 fl oz of iron-fortified formula [about 29 fl oz of formula per day]
<b>Eligibility</b>	<b>Infants, birth through 3 months of age</b>	<b>Infants, birth through 5 months of age</b>

## CURRENT DIETARY GUIDANCE FOR INFANTS

The revised food packages for infants (Tables 1 and 2) match current recommendations from the American Academy of Pediatrics (AAP).

The new packages are very attractive for breastfeeding mother/infant pairs and would provide the following incentives for breastfeeding, especially full breastfeeding.

- Changes in the amounts of formula provided would encourage a partially breastfeeding mother to feed her infant smaller amounts of formula and allow breast milk to constitute more of the infant’s diet (Tables 1 and 2).
- Formula would not be provided routinely during the first month after birth for any infants whose mothers intend to breastfeed.
- In the revised packages for older infants, fully breast-fed infants would receive baby food in greater amounts than formula-fed infants (Table 2).
- The package for fully breastfeeding mothers (Table 7) provides the largest variety and amounts of food. Only breastfeeding mothers receive food packages for 12 months following delivery (Tables 5 and 7).

The revised package for older infants (Table 2) would provide complementary foods starting at six months of age, rather than at four months of age. According to many experts, early introduction of complementary foods replaces breast milk or formula too early in the development of the infant. For infants 6 months through 11 months of age, the amount of formula would be reduced because complementary foods will supply a larger proportion of the nutritional needs for growth and development.

In the revised package for all older infants (Table 2), juice would be replaced by baby food fruits and vegetables to provide more nutritionally complete and developmentally appropriate foods. Fully breast-fed, older infants would receive baby food meats to provide iron and zinc in forms that are easily absorbed and utilized in the body. All older infants would continue to receive iron-fortified infant cereal.

**TABLE 2.** Maximum Monthly Allowances for Older Infants

	<b>Current Food Package II</b>	<b>Revised Food Package II</b>
<b>Fully Breast-Fed Infants</b>		
Fruits and Vegetables	96 fl oz of vitamin C-rich juice [about 3 fluid ounces per day]	256 ounces of baby food fruits and vegetables [about 8 ounces per day]
Grains	24 ounces of iron-fortified infant cereal	24 ounces of iron-fortified infant cereal
Meat	—	77.5 ounces baby food meat [about 2.5 ounces per day]
<b>Partially Breast-Fed Infants</b>		
Infant Formula	About 806 fl oz of iron-fortified formula [about 26 fl oz of formula per day]	About 312 fl oz of iron-fortified formula [about 10 fl oz of formula per day]
Fruits and Vegetables	96 fl oz of vitamin C-rich juice [about 3 fluid ounces per day]	128 ounces of baby food fruits and vegetables [about 4 ounces per day]
Grains	24 ounces of iron-fortified infant cereal	24 ounces of iron-fortified infant cereal
<b>Fully Formula-Fed Infants</b>		
Infant Formula	About 806 fl oz of iron-fortified formula [about 26 fl oz of formula per day]	About 624 fl oz of iron-fortified formula [about 20 fl oz of formula per day]
Fruits and Vegetables	96 fl oz of vitamin C-rich juice [about 3 fluid ounces per day]	128 ounces of baby food fruits and vegetables [about 4 ounces per day]
Grains	24 ounces of iron-fortified infant cereal	24 ounces of iron-fortified infant cereal
<b>Eligibility</b>	<b>Infants, 4 through 11 months of age</b>	<b>Infants, 6 through 11 months of age</b>

The revised package for older infants would provide complementary foods starting at six months of age, rather than at four months of age.

### FOOD PACKAGE III EXPANDED

Food Package III (Table 3) is for participants with special dietary needs. For efficient management and tracking, this package would be expanded to include infants as well as children and women. For all recipients, this package would be restrictive only as required by the participant's health condition. For example, a child with an inborn error of metabolism, such as phenylketonuria (PKU), may need to continue receiving special formula rather than milk beyond the first birthday. That child could also receive the fruits and vegetables included in Food Package IV (Table 4).

**TABLE 3.** Maximum Monthly Allowances for Participants with Special Dietary Needs

	<b>Current Food Package III</b>	<b>Revised Food Package III</b>
Formula	About 806 fl oz of iron-fortified formula, additional amounts may be approved for nutritional need (up to 104 fl oz of formula)	About 806 fl oz of iron-fortified formula, additional amounts may be approved for nutritional need
Fruits and Vegetables	144 fl oz of vitamin C-rich juice [about 5 fluid ounces per day]	Any foods from the life stage-appropriate package are included, if consistent with the participant's special health needs.
Milk and Alternatives	—	Any foods as described above
Grains	36 ounces of iron-fortified cereal	Any foods as described above
Meat and Alternatives	—	Any foods as described above
<b>Eligibility</b>	<b>Children and women</b>	<b>Infants, children, and women</b>

## MORE FRUITS AND VEGETABLES HAVE BEEN ADDED

Families at all income levels should provide more fruits and vegetables to their children in ways that build healthy eating patterns. To help low-income families accomplish this goal, the committee recommends that food packages include baby food fruits and vegetables for older infants (Table 2), cash-value vouchers for \$8 per month for children (Table 4), and cash-value vouchers for \$10 per month for women (Tables 5, 6 and 7). The cash-value vouchers would be used to purchase fresh fruits and vegetables and participants could choose from a wide variety of produce. When fresh produce is not feasible, choices of canned, dried, or frozen fruits and vegetables would be allowed. The committee made only one restriction—that white potatoes not be allowed since most Americans do not need encouragement to consume the maximum recommendation of one serving of potatoes per day.

## CURRENT DIETARY GUIDANCE FOR YOUNG CHILDREN

The revised food package for young children (Table 4) matches current recommendations from the AAP and the current *Dietary Guidelines*. Whole milk would be provided for one-year-old children and only fat-reduced milk (no more than 2% milk fat) would be provided for children 2 years and older. Juice would be limited to approximately 4 fluid ounces per day and whole fruits and vegetables would be provided. Caregivers would choose freely from available fresh produce to expose children to wide varieties of fruits and vegetables to develop healthy eating patterns. Encouraging healthy choices that include both fruits and vegetables is an important part of nutrition education.

**TABLE 4.** Maximum Monthly Allowances for Young Children

	Current Food Package IV	Revised Food Package IV
Fruits and Vegetables	288 fl oz of vitamin C-rich juice [about 9 fl oz per day]	128 fl oz of vitamin C-rich juice [about 4 fl oz per day]  \$8 cash-value voucher for fresh fruits and vegetables OR 222 oz canned fruits and vegetables
Milk and Alternatives	24 quarts of milk [about 3 cups per day] with some allowed substitutions	16 quarts of milk [about 2 cups per day] with more allowed substitutions <b>1-year-old:</b> whole milk (3.5–4% milk fat) <b>2- through 4-year-old:</b> 2% milk fat or less
Grains	36 ounces of iron-fortified cereal	36 ounces of iron-fortified whole grain cereal  2 pounds of whole grain bread OR other whole grain options
Meat and Alternatives	2–2.5 dozen eggs  1 pound of dried beans or peas OR 18 ounces of peanut butter	1 dozen eggs  1 pound of dried beans or peas OR 4 15-oz cans of beans or peas (legumes) OR 18 ounces of peanut butter
<b>Eligibility</b>	<b>Children, 1 through 4 years of age</b>	<b>Children, 1 through 4 years of age</b>

The cash-value vouchers would be used to purchase fresh fruits and vegetables and participants could choose from a wide variety of produce.

**TABLE 5.** Maximum Monthly Allowances for Pregnant Women and Partially Breastfeeding Women

	<b>Current Food Package V</b>	<b>Revised Food Package V</b>
Fruits and Vegetables	288 fl oz of vitamin C-rich juice [about 9 fl oz per day]	144 fl oz of vitamin C-rich juice [about 5 fl oz per day]  \$10 cash-value voucher for fresh fruits and vegetables OR 280 oz canned fruits and vegetables
Milk and Alternatives	28 quarts of milk [about 3 1/2 cups per day] with some allowed substitutions	22 quarts of milk [about 3 cups per day], 2% milk fat or less, with more allowed substitutions
Grains	36 ounces of iron-fortified cereal	36 ounces of iron-fortified whole grain cereal  1 pound of whole grain bread OR other whole grain options
Meat and Alternatives	2–2.5 dozen eggs  1 pound of dried beans or peas OR 18 ounces of peanut butter	1 dozen eggs  1 pound of dried beans or peas OR 4 15-oz cans of beans or peas  AND 18 ounces of peanut butter
Description of Breastfeeding	Definition of breastfeeding: Breastfeeding an average of once per day	Definition of partial breastfeeding: Breastfeeding and requesting formula in amounts that do not exceed approximately half the amount of formula allowed for a fully formula-fed infant
<b>Eligibility</b>	<b>Pregnant women, throughout pregnancy; Breastfeeding women, up to 12 months after delivery</b>	<b>Pregnant women, throughout pregnancy; Partially breastfeeding women, from 1 month through 11 months after delivery</b>

## WHOLE GRAINS ARE EMPHASIZED

The revised food packages emphasize the intake of whole grains in keeping with the *Dietary Guidelines for Americans* recommendation of at least three servings of whole grains per day. This should increase fiber intakes, which are currently very low among the WIC-eligible population. Only whole grain breakfast cereals would be allowed for children and women; many participants' favorite cereals already qualify as whole grain foods. Many of the food packages would contain additional whole grain options such as whole wheat bread, brown rice, corn tortillas, oatmeal, and barley (Tables 4, 5, and 7).

## LOWER SATURATED FAT

In keeping with current dietary guidance, foods that are high in saturated fat would be reduced. The revised food packages would have:

- Less cheese—only one pound of cheese per month (two pounds for fully breastfeeding women) instead of the 4–5 pounds allowed currently; and
- For women and children 2 years and older, milk and yogurt must be fat-reduced (no more than 2% milk fat).

Thus saturated fat would be reduced in the packages for participants 2 years of age and older.

## APPEAL TO DIVERSE POPULATIONS

The wider variety of foods in the revised packages would increase the appeal to diverse populations. Participants could choose from:

- A wider variety of calcium-rich foods as substitutes for milk—children may choose yogurt, while women may choose yogurt, calcium- and vitamin D-rich soy beverage (“soy milk”), and calcium-rich tofu;
- A wide variety of fresh fruits and vegetables;
- A wide variety of whole grains, including whole grain breakfast cereals, whole wheat bread, brown rice, and corn tortillas;
- Different forms of beans and peas (dry or canned); and
- Different types of canned fish, including light tuna and salmon.

## COSTS ARE UNCHANGED

The estimated total cost of the WIC food packages would be unchanged because although some foods were added, others were reduced or omitted. The cost of some packages would increase while the cost of others would decrease. These changes were designed to promote healthy dietary behaviors. For example, the attractiveness of the combined packages for breastfeeding mother/infant pairs would be increased.

## SUMMARY

The committee believes it is indeed time for a change in the WIC food packages. The recommended changes meet the six criteria (page 1) used to revise the packages without increasing costs. Because the proposed changes to the food packages are substantial, the committee recommends that pilot tests be conducted before the new packages are implemented nationwide. With the recommendations proposed in this report, WIC can lead the way in helping low-income families in America consume healthier diets.

**TABLE 6.** Maximum Monthly Allowances for Non-Breastfeeding Postpartum Women

	<b>Current Food Package VI</b>	<b>Revised Food Package VI</b>
Fruits and Vegetables	192 fl oz of vitamin C-rich juice [about 6 fl oz per day]	96 fl oz of vitamin C-rich juice [about 3 fl oz per day]  \$10 cash-value voucher for fresh fruits and vegetables OR 280 oz canned fruits and vegetables
Milk and Alternatives	24 quarts of milk [about 3 cups per day] with some allowed substitutions	16 quarts of milk [about 2 cups per day], 2% milk fat or less, with more allowed substitutions
Grains	36 ounces of iron-fortified cereal	36 ounces of iron-fortified whole grain cereal
Meat and Alternatives	2–2.5 dozen eggs	1 dozen eggs  1 pound of dried legumes OR 4 15-oz cans of legumes OR 18 ounces of peanut butter
<b>Eligibility</b>	<b>Non-breastfeeding postpartum women, up to 6 months after delivery</b>	<b>Non-breastfeeding postpartum women, up to 6 months after delivery</b>

The estimated total cost of the WIC food packages would be unchanged because although some foods were added, others were reduced or omitted.

**TABLE 7.** Maximum Monthly Allowances for Fully Breastfeeding Women

	<b>Current Food Package VII</b>	<b>Revised Food Package VII</b>
Fruits and Vegetables	336 fl oz of vitamin C-rich juice [about 11 fl oz per day]  2 pounds fresh carrots	144 fl oz of vitamin C-rich juice [about 5 fl oz per day]  \$10 cash-value voucher for fresh fruits and vegetables, or processed option
Milk and Alternatives	28 quarts of milk [about 3 1/2 cups per day] with some allowed substitutions  1 pound of cheese	24 quarts of milk [about 3 cups per day], 2% milk fat or less, with more allowed substitutions  1 pound of cheese
Grains	36 ounces of iron-fortified cereal	36 ounces of iron-fortified whole grain cereal  1 pound of whole grain bread or other whole grain options
Meat and Alternatives	2–2.5 dozen eggs 26 ounces canned fish (tuna) 1 pound of dried beans or peas  AND 18 ounces of peanut butter	2 dozen eggs 30 ounces canned fish (light tuna or salmon) 1 pound of dried beans or peas OR 4 15-oz cans of beans or peas  AND 18 ounces of peanut butter
<b>Eligibility</b>	<b>Fully breastfeeding women, up to 12 months after delivery</b>	<b>Fully breastfeeding women, up to 12 months after delivery</b>

**FOR MORE INFORMATION...**

Copies of *WIC Food Packages: Time for a Change* are available from the National Academies Press, 500 Fifth Street, N.W., Lockbox 285, Washington, DC 20055; (800) 624-6242 or (202) 334-3313 (in the Washington metropolitan area); Internet, <http://www.nap.edu>. The full text of this report is available at <http://www.nap.edu>.

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